

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1. (Previously presented) A method for fabricating an interconnect adjacent a contact of a semiconductor device structure, comprising:
causing a chemical reaction adjacent to a surface of at least one exposed, doped area of the semiconductor device structure to selectively deposit metal silicide thereon without reacting material of the at least one exposed, doped area ; and
depositing an interconnect material onto the metal silicide after and in situ with causing the chemical reaction.
2. (Previously presented) The method of claim 1, further comprising exposing the at least one exposed, doped area of the semiconductor device structure to a plasma.
3. (Previously presented) The method of claim 2, wherein exposing comprises exposing the at least one exposed, doped area of the semiconductor device structure to a plasma comprising an activated species of at least one of nitrogen, hydrogen, and ammonia.
4. (Original) The method of claim 1, further comprising cleaning the semiconductor device structure.
5. (Previously presented) The method of claim 4, wherein cleaning includes employing a cleaning agent comprising at least one of chlorine, hydrochloric acid, and hydrofluoric acid.
6. (Previously presented) The method of claim 1, further comprising cleaning the semiconductor device structure after depositing said metal silicide.

7. (Previously presented) The method of claim 6, wherein cleaning includes employing a cleaning agent comprising at least one of chlorine, hydrochloric acid, and hydrofluoric acid.
8. (Previously presented) The method of claim 1, wherein causing the chemical reaction results in deposition of titanium silicide.
9. (Previously presented) The method of claim 1, wherein depositing the interconnect material comprises blanket depositing the interconnect material.
10. (Previously presented) The method of claim 9, further comprising patterning the interconnect material.
11. (Previously presented) The method of claim 1, wherein depositing the interconnect material comprises selectively depositing the interconnect material.
12. (Previously presented) The method of claim 1, further comprising depositing a layer comprising electrically conductive material over the interconnect material.
13. (Previously presented) The method of claim 12, further comprising patterning the layer.
14. (Previously presented) The method of claim 1, wherein depositing the interconnect material comprises depositing at least one of titanium and titanium nitride.
15. (Previously presented) The method of claim 1, wherein causing the chemical reaction comprises reacting a metallic precursor with a silicon-containing compound.

16. (Previously presented) The method of claim 15, wherein reacting comprises reacting a metallic precursor comprising at least one of a titanium tetrahalide, a subhalide, and a $\text{Ti}(\text{NR}_2)_4$, where R is selected from the group consisting of hydrogen and alkyl groups, with the silicon-containing compound.

17. (Previously presented) The method of claim 15, wherein reacting comprises reacting the metallic precursor with a silicon-containing compound comprising at least one of a silane, a dichlorosilane, and a $\text{Si}_n\text{H}_{2n+2}$, where n is an integer equal to zero or more.

18. (Previously presented) The method of claim 1, wherein depositing the interconnect material comprises reacting a metallic precursor with a reactant comprising at least one of ammonia, nitrogen trifluoride, an organic silane reactive gas, and an activated species.

19. (Previously presented) The method of claim 18, wherein reacting comprises reacting a metallic precursor comprising at least one of a titanium tetrahalide and a $\text{Ti}(\text{NR}_2)_4$, where R is selected from the group consisting of hydrogen and alkyl groups, with the reactant.

20. (Previously presented) A method for fabricating a selective contact and a local interconnect on a semiconductor device structure, comprising:
causing a chemical reaction adjacent to an exposed active device region of the semiconductor device structure to selectively deposit a contact material thereon without reacting a material of the active device region; and
depositing an interconnect material onto the contact material after and in situ with causing the chemical reaction.

21. (Original) The method of claim 20, further comprising exposing the semiconductor device structure to a plasma.

22. (Previously presented) The method of claim 21, wherein exposing comprises exposing the semiconductor device structure to a nitrogen-ammonia plasma.

23. (Previously presented) The method of claim 20, further comprising depositing an electrically conductive material onto the interconnect material.

24. (Previously presented) The method of claim 20, wherein depositing the interconnect material comprises selectively depositing the interconnect material.

25. (Previously presented) The method of claim 20, wherein depositing the interconnect material comprises blanket depositing the interconnect material.

26. (Previously presented) The method of claim 25, further comprising patterning the interconnect material to form at least one interconnect therefrom over the contact material.

27. (Previously presented) The method of claim 20, wherein causing the chemical reaction comprises depositing a selective contact material.

28. (Previously presented) The method of claim 27, wherein depositing the selective contact material comprises depositing a metal silicide.